AMENDMENTS TO THE CLAIMS

1-36. (Canceled).

37. (New) A human antibody having specificity for the activated C5 component of the complement system characterised in that it recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b.

38. (New) Antibody according to claim 37 wherein said C5 component is of mammalian origin, chosen among: human, mouse, rat, and rabbit.

39. (New) Antibody according to claim 37 characterised in that it is recombinantly produced.

40. (New) Recombinant antibody according to claim 39, characterised in that it is in the form of single chain (scFv) comprising one variable region of the light chain covalently joined to one variable region of the heavy chain.

41. (New) Antibody according to claim 40, characterised by the fact that the light chain is a lambda chain, preferably Vλ3/V2-14 or a kappa chain, preferably Vκ4/DPK24, and the variable region of the heavy chain is the VH3 region, preferably VH3/V-48.

42. (New) Antibody according to claim 41, characterised in that it comprises at least one of the amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6.

43. (New) Recombinant antibody according to claim 42 having amino acid sequence SEQ ID NO:6.

44. (New) Recombinant antibody according to claim 42 characterised in that it comprises both the amino acid sequences identified as SEQ ID NO:2 and SEQ ID NO:4, or their allelic variants or their conservative mutations.

45. (New) Recombinant antibody according to claim 42, characterised by the fact of comprising a polypeptide having at least 95% homology with at least one of the amino acid sequences corresponding to sequence SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

46. (New) Recombinant antibody according to claim 42 characterised in that it comprises at least one of the sequences selected from the group consisting of SEQ ID NO:2, 4, and 6 in combination with a sequence derived from an immunoglobulin heavy chain constant region.

47. (New) Recombinant antibody according to claim 46 wherein said immunoglobulin heavy chain constant region is selected from the group consisting of: human IgA heavy chain, human IgG heavy chain, murine heavy gamma chain, and rattus norvegicus heavy chain.

48. (New) Recombinant antibody according to claim 47 characterised in that it is dimeric.

49. (New) Recombinant chimeric protein characterised in that it comprises at least one of the sequences corresponding to SEQ ID NO: 2, 4, 6, 8, 10, or 12, or protein sequences having at least 95% homology with said sequences.

50. (New) Isolated nucleotide sequence encoding for the antibody according to claim 37.

51. (New) Nucleotide sequence according to claim 50 characterised in that it comprises at least one of the sequences selected from: SEQ ID NO:1, 3, and 5 or each one of SEQ ID NO:7, 8, and 9.

52. (New) Vector comprising a nucleotide sequence according to claim 51.

53. (New) Vector according to claim 52 characterised by the fact of being expression vectors in bacteria, yeasts, or higher eukaryotic cells.

54. (New) Isolated cell characterised by being transformed with the nucleotide sequence according to claim 51 or by the vector according to claim 52.

55. (New) Non-human transgenic animal, characterised by the fact of expressing nucleotide sequences according to claim 51.

56. (New) A pharmaceutical composition comprising as the active principle any one of the antibodies selected from the group consisting of:

- an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8 , and 9; and
- an antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6,

in combination with suitable excipients and/or diluents.

57. (New) A pharmaceutical composition comprising as the active principle any one of the nucleotide sequences selected from the group consisting of:

- a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of SEQ ID NO:1, 3, and 5 or each one of SEQ ID NO:7, 9, and 11; and

- a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequences selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6,

in combination with suitable excipients and/or diluents.

58. (New) The composition according to claim 56 for treating myocardium damage from reperfusion after ischaemia.

59. (New) The composition according to claim 57 for treating myocardium damage from reperfusion after ischaemia.

60. (New) A therapeutic method for the prevention or the treatment of diseases involving hyperactivation of the complement system to a patient in need thereof comprising administering to said subject a therapeutically effective amount of an antibody selected from the group consisting of:

- an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8, and 9; and
- an antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

61. (New) A therapeutic method for the prevention or the treatment of diseases involving hyperactivation of the complement system to a patient in need thereof comprising administering to said subject a therapeutically effective amount of a nucleotide sequence selected from the group consisting of:

- a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of

human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;

- a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of: SEQ ID NO:1, 3, and 5 or each one of SEQ ID NO: 7, 9, and 11; and
- a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

62. (New) The therapeutic method according to claim 60 wherein said hyperactivation leads to a chronic or an acute inflammatory disease.

63. (New) The therapeutic method according to claim 61 wherein said hyperactivation leads to a chronic or an acute inflammatory disease.

64. (New) The therapeutic method according to claim 62 wherein said acute inflammatory disease is Multiple Organ Failure or myocardial infarction.

65. (New) The therapeutic method according to claim 63 wherein said acute inflammatory disease is Multiple Organ Failure or myocardial infarction.

66. (New) The therapeutic method according to claim 62 wherein said chronic inflammatory disease is selected from the group consisting of: rheumatoid arthritis, glomerulonephritis, multiple sclerosis, demyelinating peripheral neuropathies, and atherosclerosis.

67. (New) The therapeutic method according to claim 63 wherein said chronic inflammatory disease is selected from the group consisting of: rheumatoid arthritis, glomerulonephritis, multiple sclerosis, demyelinating peripheral neuropathies, and atherosclerosis.

68. (New) A method for setting up an animal model for a disease caused by hyperactivation of the complement system which comprises treating an animal with any one of the antibodies selected from the group consisting of:

- an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8, and 9; and
- an antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

69. (New) A method for setting up an animal model for a disease caused by hyper-activation of the complement system which comprises treating an animal with any one of the nucleotide sequences selected from the group consisting of:

- a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said anitbody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of: SEQ ID NO:1, 3, or 5 or each one of SEQ ID NO: 7, 9, and 11; and
- a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

70. (New) Process for selecting anti-C5 antibodies endowed with the ability of inhibiting the formation of C5a from C5, comprising a first selection step on C5 antigen and a second selection step by means of inhibition of a hemolytic assay on SRBC.

71. (New) Process for the preparation of a recombinant antibody specific for the activated C5 component of the complement system and recognizing a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b, wherein is used any one of the isolated nucleotide sequences selected from the group consisting of:

- a nucleotide sequence comprising any one of the sequence selected from group consisting of: SEQ ID NO:1, 3, and 5 and each one of SEQ ID NO:7, 9, and 11; and
- a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

72. (New) Kit comprising any one of the antibodies selected from the group consisting of:

- an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b;
- an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8, and 9;
- an antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

73. (New) Kit comprising any one of the nucleotide sequences selected from the group consisting of:

- a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK

(SEQ ID NO:15) and wherein said anitbody inhibits the conversion of the C5 alpha chain to C5a and C5b;

- a nucleotide sequence comprising any one and at least one of the sequences selected from group consisting of SEQ ID NO:1, 3, and 5 and each one of SEQ ID NO:7, 9, and 11; and
- a nucleotide sequence encoding an antibody at least 95% homologous to any one of the amino acid sequences selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

74. (New) A process for the selection of inhibitors of the conversion of the C5 component of activated complement to its biologically active fragments, characterised by the use of an antibody according to claim 37.

75. (New) A peptide with the amino acid sequence: KDMQLGRLHMKTLLPVSK (SEQ ID NO:15).

76. (New) A process for the selection of inhibitors of the conversion of the C5 component of activated complement to its biologically active fragments, wherein the peptide according to claim 75 is used.